

## ENGINEERING SPECIALIST

### NATURE OF WORK

This is advanced technical work in connection with any branch of engineering in the field and/or office.

Work involves the various phases of design, construction, records keeping, and computer related work necessary to plan, construct and record engineering projects. Work responsibilities may include one or more of the following: advanced level manual and/or computer aided drafting under a minimum of supervision; advanced level engineering surveying involving complex public works and utility projects; construction observation; laboratory testing of sample of construction materials under a minimum of supervision; assisting in implementing the provisions of the Lincoln Municipal Code and design standards; beginning level programming for computer graphics mapping; reviewing and analyzing requests for, and coordinating implementation of, traffic control signs or devices; advance level reading and implementing of wiring diagrams for traffic signal cabinets; installing and troubleshooting traffic signal equipment; scheduling, performing and overseeing data collection, tabulation and summary; Level II hardware and software support and troubleshooting, computer training and some minor programming. Limited supervision is received from a technical or administrative superior who reviews results to assure adherence to accepted engineering principles.

### EXAMPLES OF WORK PERFORMED

Plans, performs and implements the development of programs and/or command procedures for CEIS users.

Provides Level II technical assistance and trouble shoots problems for internal and external customers in order to maintain the integrity of CEIS files data bases and command procedures; assists in the preparation of cost and time projections.

Plans and conducts CEIS related training classes; develops training schedule, supervises and critiques training as directed by supervisor.

Consults with new and existing CEIS users to determine their needs, problems and expectations; provides assistance with problems or inquiries related to computer functions.

Maintains status records of construction projects.

Reviews building plans, curb cuts, subdivisions and zoning applications for conformance with design standards.

Checks plat survey data for accuracy, conformity to Lincoln Municipal Code, and to ensure sufficiency of data.

Schedules, performs and analyzes various public infrastructure engineering studies, e.g. spot speed; traffic delay, safety and flow; storm water, wastewater, water and paving analysis.

Assists in the update of the Comprehensive Plan.

Wires and/or modifies traffic signal cabinets as needed to insure proper operation of traffic signals; installs and troubleshoots traffic signal communication equipment.

Prepares preliminary specifications as required.

Prepares right-of-way plats with meets and bounds descriptions.

Observes all phases of complex infrastructure construction for proper drainage, subgrade preparation, pipe laying operations; observes backfilling procedures; locates underground utilities and resolves conflicts between various utilities.

Prepares partial and final cost estimates for review of the various projects at direction of team or project manager using project software program.

Performs advanced level laboratory and field testing duties utilizing complex equipment, including nuclear density equipment; conducts various tests on asphalt, concrete and soil samples; maintains a variety of records reflecting test results.

Performs work in one or more of the following areas: reviews and analyzes assigned traffic requests; determines the type of accident and traffic studies needed; performs the needed studies and initiates installation of warranted traffic control devices; develops and maintains signing and marking plans, and concept plans for geometric changes; performs traffic signal timing optimization using software and following standard procedures.

Performs related work as required.

#### DESIRABLE KNOWLEDGE, ABILITIES AND SKILLS

Considerable knowledge of ArcView and Microstation.

Considerable knowledge of spreadsheet, word processing, data base and e-mail software.

Knowledge of Inexpress and Inroads.

Some knowledge of City, County, State or Federal transportation planning processes.

Some knowledge of transportation engineering/planning software and applications.

Some knowledge of regional transportation models, e.g, Tranplan, TP+ and Viper.

Ability to understand and follow oral and written instructions.

Ability to provide hardware/software support.

Ability to establish and maintain effective working relationships with co-workers and the general public.

Ability to communicate effectively both orally and in writing.

Ability to read electrical diagrams or schematics.

Ability to install and troubleshoot traffic signal equipment.

#### DESIRABLE TRAINING AND EXPERIENCE

Graduation from a senior high school or equivalent supplemented by an associate degree in computer science, drafting or other engineering field, the electrical or electronic field; and considerable experience with software installation/upgrade troubleshooting, drafting, surveying and/or related engineering work.

#### MINIMUM QUALIFICATIONS

Graduation from a senior high school or equivalent supplemented by college level course work in computer science, drafting or other civil engineering field, the electrical or electronic field; and experience with software installation/upgrade troubleshooting, drafting, surveying and/or related engineering work; or any equivalent combination of training and experience which provides the desirable knowledge, abilities and skills.

#### SPECIAL NECESSARY REQUIREMENTS

Possession of a valid State of Nebraska driver's license when operating a vehicle may be necessary to the satisfactory performance of assigned duties for some positions within this classification.

*Employees may be required to possess any of the following if required by the position to which assigned.*

Novell Netware Administrator experience.

Experience in Visual Basic, Java, HTML (Advanced), MDL and Avenue.

Maintain Railroad Safety Certification.

Workzone Certification Technician.

Employees are encouraged to complete Levels 1 and 2 engineering certification as sponsored by: ASCE/ITE/IMSA/FHWA.

Approved by: \_\_\_\_\_  
Department Head

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Personnel Director

9/99

Revised: 02/2002

Revised: 09/2004

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